

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR MANAGEMENT

**Parker Hannifin Corporation, Cylinder Division
One Parker Drive
Ashley, Indiana 46705**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 033-11701-00073	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in Conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary large hard chromium electroplating source.

Authorized Individual:	Tony Proper
Source Address:	One Parker Drive, Ashley, Indiana 46705
Mailing Address:	P.O. Box 368, Ashley, Indiana 46705
Phone Number:	219 - 587 - 9102
SIC Code:	3471
County Location:	DeKalb
County Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) hard chromium electroplating operation with a maximum cumulative rectifier capacity of 317,520,000 Ampere-hours per year consisting of:
 - (1) One (1) hard chromium electroplating tank, identified as VP-1, constructed prior to January 25, 1995 and equipped with a packed bed scrubber/ composite mesh pad system, and exhausting to one (1) stack, identified as VPS.
 - (2) Three (3) hard chromium electroplating tanks, identified as HP-1, HP-2 and HP-3, constructed prior to January 25, 1995 and equipped with a packed bed scrubber/ composite mesh pad system, and exhausting to one (1) stack, identified as OHPS-1.
 - (3) Three (3) hard chromium electroplating tanks, identified as HP-4, HP-5 and HP-6, constructed in April 1997, equipped with a composite mesh pad scrubber, and exhausting to one (1) stack, identified as NHPS-1.
- (b) One (1) natural gas fired applied air system, installed in May 1983, capacity: 5.0 million British thermal units per hour.
- (c) Two (2) grinding and polishing lines, including the following:
 - (1) Two (2) centerless grinders, equipped with mist eliminators and a fiberglass filter bag, capacity: 6,700 pounds per day;

- (2) Two (2) polishing machines, equipped with two (2) wet dust collectors, capacity: 6,700 pounds per day; and
- (3) One (1) buffing machine, with three (3) polishing heads, equipped with a wet dust collecting system, capacity: 4,000 pounds per day.

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of operating permits pursuant to 326 IAC 2 (Permit Review Rules).

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The total source potential to emit of each criteria pollutant is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

Testing Requirements

C.9 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM, within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.10 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.12 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
 - (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:
 - (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

- (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

C.13 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.14 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.

- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a) (1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.15 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.16 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:

- (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
- (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.
- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.18 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Management stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Management
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) One (1) hard chromium electroplating operation with a maximum cumulative rectifier capacity of 317,520,000 Ampere-hours per year consisting of:
- (1) One (1) hard chromium electroplating tank, identified as VP-1, constructed prior to January 25, 1995 and equipped with a packed bed scrubber/ composite mesh pad system, and exhausting to one (1) stack, identified as VPS.
 - (2) Three (3) hard chromium electroplating tanks, identified as HP-1, HP-2 and HP-3, constructed prior to January 25, 1995 and equipped with a packed bed scrubber/ composite mesh pad system, and exhausting to one (1) stack, identified as OHPS-1.
 - (3) Three (3) hard chromium electroplating tanks, identified as HP-4, HP-5 and HP-6, constructed in April 1997, equipped with a composite mesh pad scrubber, and exhausting to one (1) stack, identified as NHPS-1.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.1.1 General Provisions Relating to HAPs [326 IAC 20-1-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 63, Subpart N. The Permittee shall comply with the requirements of this condition on and after the compliance date for the tanks.

D.1.2 Chromium Electroplating and Anodizing NESHAP [326 IAC 20-8-1] [40 CFR Part 63, Subpart N]

The provisions of 40 CFR 63, Subpart N - National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, which are incorporated by reference as 326 IAC 20-8-1, apply to tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6. A copy of this rule is attached. The Permittee shall comply with the requirements of this condition on and after the compliance date for the tanks.

D.1.3 Chromium Emissions Limitation [326 IAC 20-8-1][40 CFR 63.342(c)] [40 CFR 63.343(a)(1)&(2)]

- (a) The emission limitations in this condition apply only during tank operation, and also apply during periods of startup and shutdown as these are routine occurrences for tanks subject to 326 IAC 20-8-1. The emission limitations do not apply during periods of malfunction.
- (b) The hard chromium electroplating tanks, identified as VP-1, HP-1, HP-2 and HP-3, above, are considered a large, existing hard chromium electroplating operation. During tank operation, the Permittee shall control chromium emissions discharged to the atmosphere from the tanks by not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.015 mg/dscm [6.6×10^{-6} gr/dscf].
- (c) The hard chromium electroplating tanks, identified as HP-4, HP-5 and HP-6 above, are considered a large, new hard chromium electroplating operation. During tank operation, the Permittee shall control chromium emissions discharged to the atmosphere from the tanks by not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.015 mg/dscm [6.6×10^{-6} gr/dscf].

D.1.4 Work Practice Standards [326 IAC 20-8-1] [40 CFR 63.342(f)]

The following work practice standards apply to tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6:

- (a) At all times, including periods of startup, shutdown, malfunction and excess emissions, the Permittee shall operate and maintain tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, including the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and monitoring equipment, in a manner consistent with good air pollution control practices, consistent with the Operation and Maintenance Plan (OMP) required by Condition D.1.6.
- (b) Malfunctions and excess emissions shall be corrected as soon as practicable after their occurrence in accordance with the OMP required by Condition D.1.6.
- (c) These operation and maintenance requirements are enforceable independent of emissions limitations or other requirements in this section.
- (d) Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to IDEM, OAM, which may include, but is not limited to, monitoring results; review of the OMP, procedures, and records; and inspection of the source.
- (e) Based on the results of a determination made under paragraph (d) of this condition, IDEM, OAM may require that the Permittee make changes to the OMP required by Condition D.1.6. Revisions may be required if IDEM, OAM finds that the plan:
 - (1) Does not address a malfunction or period of excess emissions that has occurred;
 - (2) Fails to provide for the operation of tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, including the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and process monitoring equipment during a malfunction or period of excess emissions in a manner consistent with good air pollution control practices; or

- (3) Does not provide adequate procedures for correcting malfunctioning process equipment, the packed bed scrubber/ composite mesh pad systems and composite mesh pad system, monitoring equipment or other causes of excess emissions as quickly as practicable.

The work practice standards that address operation and maintenance must be followed during malfunctions and periods of excess emissions.

D.1.5 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan (PMP), in accordance with Section B-Preventive Maintenance Plan, of this permit, is required for the tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, including the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system.

D.1.6 Operation and Maintenance Plan [326 IAC 20-8-1] [40 CFR 63.342(f)(3)]

- (a) The Permittee shall prepare an Operation and Maintenance Plan (OMP) to be implemented no later than the startup date of tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6. The OMP shall specify the operation and maintenance criteria for the tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, including the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and monitoring equipment and shall include the following elements:

- (1) For the composite mesh-pad system (CMP):

- (A) Quarterly visual inspections of the device to ensure there is proper drainage, no chromic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device.
- (B) Quarterly visual inspection of the back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.
- (C) Quarterly visual inspection of the duct work from the tank to the control device to ensure there are no leaks.
- (D) Perform washdown of the composite mesh-pads in accordance with manufacturers recommendations.

- (2) For the packed-bed scrubber/composite mesh-pad systems (PBS/CMP):

- (A) Quarterly visual inspections of the device to ensure there is proper drainage, no chromic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device.
- (B) Quarterly visual inspection of the back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.
- (C) Quarterly visual inspection of the duct work from the tank to the control device to ensure there are no leaks.
- (D) Perform washdown of the composite mesh-pads in accordance with manufacturers recommendations.

- (3) A standardized checklist to document the operation and maintenance criteria for tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, the add-on air pollution control devices and the monitoring equipment.
 - (4) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions or periods of excess emissions as indicated by monitoring data do not occur.
 - (5) A systematic procedure for identifying malfunctions and periods of excess emissions of tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and monitoring equipment; and for implementing corrective actions to address such malfunctions and periods of excess emissions.
- (b) The Permittee may use applicable standard operating procedures (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans such as the PMP required in Condition D.1.5, as the OMP, provided the alternative plans meet the above listed criteria in Condition D.1.6(a).
 - (c) If the OMP fails to address or inadequately addresses an event that meets the characteristics of a malfunction or period of excess emissions at the time the plan is initially developed, the Permittee shall revise the OMP within forty-five (45) days after such an event occurs. The revised plan shall include procedures for operating and maintaining tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and the monitoring equipment, during similar malfunction or period of excess emissions events, and a program for corrective action for such events.
 - (d) If actions taken by the Permittee during periods of malfunction or period of excess emissions are inconsistent with the procedures specified in the OMP, the Permittee shall record the actions taken for that event and shall report by phone such actions within two (2) working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within seven (7) working days after the end of the event, unless the Permittee makes alternative reporting arrangements, in advance, with IDEM, OAM.
 - (e) The Permittee shall keep the written OMP on record after it is developed to be made available, upon request, by IDEM, OAM for the life of tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6 or until the tank is no longer subject to the provisions of 40 CFR 63.340. In addition, if the OMP is revised, the Permittee shall keep previous versions of the OMPs on record to be made available for inspection, upon request by IDEM, OAM for a period of five (5) years after each revision to the plan.

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.1.7 Performance Testing [326 IAC 2-1.1-11] [326 IAC 20-8-1] [40 CFR 63.343(b)(2)] [40 CFR 63.7] [40 CFR 63.344]

-
- (a) A performance test demonstrating initial compliance for tank VP-1 was performed on October 9, 1996. A subsequent performance test was performed on June 24, 1998.

During the performance test conducted on October 9, 1996, it was determined that the average pressure drop across the composite mesh pad system was 1.5 inches of water and the average outlet chromium concentration is 0.00512 mg/dscm. During the performance test conducted on June 24, 1998, it was determined that the average pressure drop across the composite mesh pad system was 1.7 inches of water and the average outlet chromium concentration is 0.01195 mg/dscm.

- (b) A performance test demonstrating initial compliance for tanks HP-1, HP-2 and HP-3 was performed on October 10, 1996. A subsequent performance test was performed on June 24, 1998.

During the performance test conducted on October 10, 1996, it was determined that the average pressure drop across the composite mesh pad system was 2.2 inches of water and the average outlet chromium concentration is 0.00600 mg/dscm. During the performance test conducted on June 24, 1998, it was determined that the average pressure drop across the composite mesh pad system was 1.2 inches of water and the average outlet chromium concentration is 0.00710 mg/dscm.

- (c) A performance test demonstrating initial compliance for tanks HP-4, HP-5 and HP-6 was performed on April 14, 1998.

During the initial performance test, it was determined that the average pressure drop across the composite mesh pad system was 4.90 inches of water and the average outlet chromium concentration is 0.0098 mg/dscm.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.8 Monitoring to Demonstrate Continuous Compliance [326 IAC 2-6.1-5(a)(2)] [326 IAC 20-8-1] [40 CFR 63.343(c)]

-
- (a) Pursuant to 40 CFR 63.343(c)(1)(ii), when using a composite mesh-pad system to comply with the limits specified in Condition D.1.3, and pursuant to 40 CFR 63.343(c)(3) and 63.343(c)(1)(ii), when using a packed bed scrubber in conjunction with a composite mesh-pad system to comply with the limits specified in Condition D.1.3, the Permittee shall monitor and record the pressure drop across the composite mesh-pad system during tank operation once each day that the hard chromium electroplating tank is operating. To be in compliance with the standards, the composite mesh-pad system shall be operated within ± 1 inch of water column of the pressure drop value established during the initial performance test, or within the range of compliant values for pressure drop established during multiple performance tests.
- (b) Tank operation or operating time is defined as that time when a part is in the tank and the rectifier is turned on. If the amount of time that no part is in the tank is fifteen minutes or longer, that time is not considered operating time. Likewise, if the amount of time between placing parts in the tank (i.e., when no part is in the tank) is less than fifteen minutes, that time between plating the two parts may be considered operating time.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.9 Record Keeping Requirements [326 IAC 20-8-1] [40 CFR 63.346]

The Permittee shall maintain records to document compliance with Conditions D.1.3, D.1.4 and D.1.6 using the forms provided with this permit. These records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit and include a minimum of the following:

- (a) Inspection records for the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and monitoring equipment to document that the inspection and maintenance required by Conditions D.1.7 and D.1.8 have taken place. The record can take the form of a checklist and should identify the following:
 - (1) The device inspected;
 - (2) The date of inspection;
 - (3) A brief description of the working condition of the device during the inspection, including any deficiencies found; and
 - (4) Any actions taken to correct deficiencies found during the inspection, including the date(s) such actions were taken.
- (b) Records of all maintenance performed on tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and monitoring equipment.
- (c) Records of the occurrence, duration, and cause (if known) of each malfunction of tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and monitoring equipment.
- (d) Records of the occurrence, duration, and cause (if known) of each period of excess emissions of tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6, the two (2) packed bed scrubber/ composite mesh pad systems and one (1) composite mesh pad system, and monitoring equipment as indicated by monitoring data collected in accordance with this condition.
- (e) Records of actions taken during periods of malfunction or excess emissions when such actions are inconsistent with the OMP.
- (f) Other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the OMP.
- (g) Test reports documenting results of all performance tests.
- (h) All measurements as may be necessary to determine the conditions of performance tests, including measurements necessary to determine compliance.
- (i) Records of monitoring data required by 40 CFR 63.343(c) that are used to demonstrate compliance with the standard including the date and time the data are collected.

- (j) The total process operating time, as defined in Condition D.1.8(b), of each tank, during the reporting period.
- (k) All documentation supporting the notifications and reports required by 40 CFR 63.9 and 63.10 (Subpart A, General Provisions) and by Condition D.1.10.

D.1.10 Reporting Requirements [326 IAC 3-6-4(b)] [326 IAC 20-8-1] [40 CFR 63.344(a), 63.345 and 63.347]

The notifications and reports required in this section shall be submitted to IDEM, OAM using the address specified in Section C - General Reporting Requirements.

(a) Notifications:

- (1) Initial Notifications
The Permittee shall notify IDEM, OAM in writing that the source is subject to 40 CFR Part 63, Subpart N. The notification shall be submitted no later than one hundred eighty (180) days after the compliance date and shall contain the information listed in 40 CFR 63.347(c)(1).
- (2) A Notification of Compliance Status (NCS) is required each time that the facility becomes subject to the requirements of 40 CFR Part 63 Subpart N.
 - (A) The NCS shall be submitted to IDEM, OAM, and shall list, for each tank, the information identified in 40 CFR 63.347(e)(2).
 - (B) The NCS for tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6 shall be submitted to IDEM, OAM immediately.
- (3) Notification of Construction or Reconstruction
Pursuant to 40 CFR 63.345(b)(1), the Permittee may not construct a new tank subject to 40 CFR 63, Subpart N (including non-affected tanks defined in 40 CFR 63.344 (e)) without submitting a Notification of Construction or Reconstruction (NCR) to IDEM, OAM. In addition, the Permittee may not change, modify, or reconstruct tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6 without submitting a Notification of Construction or Reconstruction (NCR) to IDEM, OAM.
 - (A) The NCR shall contain the information identified in 40 CFR 63.345(b) (2) and (3).
 - (B) A change, modification, or reconstruction of this facility includes any change in the air pollution control techniques, the addition of add-on control devices, or the construction of duct work for the purpose of controlling both existing tanks and non-affected facilities by a common control technique or device [i.e., the addition of duct work to the CMP system or PBS/CMP systems].
 - (C) A complete application to construct new chromium electroplating or chromium anodizing tanks serves as this notification. Likewise, the complete application to modify or reconstruct tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6 serves as this notification.
 - (D) Pursuant to 326 IAC 2-1.1-2(a), permission must be received from IDEM, OAM before construction, modification, or reconstruction may commence.

(b) Performance Test Results

The Permittee shall document results from any future performance tests in a complete test report that contains the information required in 40 CFR 344(a).

The Permittee shall submit reports of performance test results as part of the Notification of Compliance Status, described in 40 CFR 63.347(e), no later than forty-five (45) days following the completion of the performance test.

(c) Ongoing Compliance Status Report

The Permittee shall prepare summary reports to document the ongoing compliance status of tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6 using the Ongoing Compliance Status Report form provided with this permit. This report shall contain the information specified in 40 CFR 63.347(g)(3).

(d) Because tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6 are located at site that is an area source of hazardous air pollutants (HAPs), the Ongoing Compliance Status Report shall be retained on site and made available to IDEM, OAM upon request.

(1) The Ongoing Compliance Status Report shall be completed according to the following schedule except as provided in paragraphs (c)(2).

(A) The first report shall cover the period from the start-up date of the emissions units to December 31 of the year in which the emissions units begin operation.

(B) Following the first year of reporting, the report shall be completed on a calendar year basis with the reporting period covering from January 1 to December 31.

(2) If either of the following conditions are met, semiannual reports shall be prepared and submitted to IDEM, OAM:

(A) The total duration of excess emissions (as indicated by the monitoring data collected by the Permittee in accordance with 40 CFR 63.343(c)) is one percent (1%) or greater of the total operating time as defined in Condition D.1.8(b) for the reporting period; or

(B) The total duration of malfunctions of the add-on air pollution control device and monitoring equipment is five percent (5%) or greater of the total operating time as defined in Condition D.1.8(b).

Once the Permittee reports an exceedance as defined above, Ongoing Compliance Status Reports shall be submitted semiannually until a request to reduce reporting frequency in accordance with 40 CFR 63.347(g)(2) is approved.

(3) IDEM, OAM may determine on a case-by-case basis that the summary report shall be completed more frequently and submitted, or that the annual report shall be submitted instead of being retained on site, if these measures are necessary to accurately assess the compliance status of the source.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (b) One (1) natural gas fired applied air system, installed in May 1983, capacity: 5.0 million British thermal units per hour.
- (c) Two (2) grinding and polishing lines, including the following:
 - (1) Two (2) centerless grinders, equipped with mist eliminators and a fiberglass filter bag, capacity: 6,700 pounds per day;
 - (2) Two (2) polishing machines, equipped with two (2) wet dust collectors, capacity: 6,700 pounds per day; and
 - (3) One (1) buffing machine, with three (3) polishing heads, equipped with a wet dust collecting system, capacity: 4,000 pounds per day.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the two (2) centerless grinders shall not exceed 1.44 pounds per hour, total, when operating at a combined process weight rate of 419 pounds per hour.
- (b) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the two (2) polishing machines shall not exceed 1.44 pounds per hour, total, when operating at a combined process weight rate of 419 pounds per hour.
- (c) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the one (1) buffing machine shall not exceed 1.02 pounds per hour when operating at a process weight rate of 250 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where} \quad E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.2.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?____, 25 TONS/YEAR SULFUR DIOXIDE ?____, 25 TONS/YEAR NITROGEN OXIDES ?____, 25 TONS/YEAR VOC ?____, 25 TONS/YEAR HYDROGEN SULFIDE ?____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?____, 25 TONS/YEAR FLUORIDES ?____, 100 TONS/YEAR CARBON MONOXIDE ?____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ Parker Hannifin Corporation, Cylinder Division PHONE NO. : _____ 219 - 587 - 9102
LOCATION: (CITY AND COUNTY) _____ Ashley / DeKalb
PERMIT NO. _____ 033-11701 AFS PLANT ID: _____ 033-00073 AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: _____ / _____ / 20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE _____ / _____ / 20____ _____ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

* **Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
SEMI-ANNUAL COMPLIANCE MONITORING REPORT**

Source Name: Parker Hannifin Corporation, Cylinder Division
Source Address: One Parker Drive, Ashley, Indiana 46705
Mailing Address: P.O. Box 368, Ashley, Indiana 46705
MSOP No.: 033-11701-00073

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	Number of Deviations	Date of each Deviation

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Parker Hannifin Corporation, Cylinder Division
Address:	P.O. Box 368
City:	Ashley, Indiana 46705
Phone #:	219 - 587 - 9102
MSOP #:	033-11701-00073

I hereby certify that Parker Hannifin Corporation, Cylinder Division is

☒ still in operation.

☐ no longer in operation.

I hereby certify that Parker Hannifin Corporation, Cylinder Division is

☒ in compliance with the requirements of MSOP 033-11701-00073.

☐ not in compliance with the requirements of MSOP 033-11701-00073.

Authorized Individual (typed):	Tony Proper
Title:	Plant Engineer
Signature:	
Date:	

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
CHROMIUM ELECTROPLATING AND ANODIZING NESHAP
ONGOING COMPLIANCE STATUS REPORT**
Complete this form for each affected tank

Source Name: Parker Hannifin Corporation, Cylinder Division
Source Address: One Parker Drive, Ashley, Indiana 46705
Mailing Address: P.O. Box 368, Ashley, Indiana 46705
MSOP No.: 033-11701-00073
Type of process: Hard Chromium Electroplating
Monitoring Parameter: Pressure drop across the composite mesh-pad system
Parameter Value: ± 1 inch of water column of the pressure drop value established during the initial performance test, or within the range of compliant values for pressure drop established during multiple performance tests.
Limits: Total chromium concentration may not exceed 0.015 mg/dscm

This form is to be used to report compliance for the Chromium Electroplating and Anodizing NESHAP only.
The frequency for completing this report may be altered by IDEM, OAM, Compliance Branch.

Companies classified as a major source: submit this report no later than 30 days after the end of the reporting period.
Companies classified as an area source: complete this report no later than 30 days after the end of the reporting period,
and retain on site unless otherwise notified.

This form consists of 2 pages

Page 1 of 2

BEGINNING AND ENDING DATES OF THE REPORTING PERIOD:

TOTAL OPERATING TIME OF THE TANK DURING THE REPORTING PERIOD:

MAJOR AND AREA SOURCES: CHECK ONE

- 9** NO DEVIATIONS OF THE MONITORING PARAMETER ASSOCIATED WITH THIS TANK FROM THE COMPLIANT VALUE OR RANGE OF VALUES OCCURRED DURING THIS REPORTING PERIOD.
- 9** THE MONITORING PARAMETER DEVIATED FROM THE COMPLIANT VALUE OR RANGE OF VALUES DURING THIS REPORTING PERIOD (THUS INDICATING THE EMISSION LIMITATION MAY HAVE BEEN EXCEEDED, WHICH COULD RESULT IN MORE FREQUENT REPORTING).

AREA (I.E., NON-MAJOR) SOURCES OF HAP ONLY:

IF DEVIATIONS OCCURRED, LIST THE AMOUNT OF TANK OPERATING TIME EACH MONTH THAT MONITORING RECORDS SHOW THE MONITORING PARAMETER DEVIATED FROM THE COMPLIANT VALUE OR RANGE OF VALUES.

JAN	APR	JUL	OCT
FEB	MAY	AUG	NOV
MAR	JUN	SEP	DEC

HARD CHROME TANKS / MAXIMUM RECTIFIER CAPACITY LIMITED IN ACCORDANCE WITH 40 CFR 63.342(c)(2) ONLY:
LIST THE ACTUAL AMPERE-HOURS CONSUMED (BASED ON AN AMP-HR METER) BY THE INDIVIDUAL TANK.

JAN	APR	JUL	OCT
FEB	MAY	AUG	NOV
MAR	JUN	SEP	DEC

CHROMIUM ELECTROPLATING AND ANODIZING NESHAP ONGOING COMPLIANCE STATUS REPORT

ATTACH A SEPARATE PAGE IF NEEDED

Page 2 of 2

IF THE OPERATION AND MAINTENANCE PLAN REQUIRED BY 40 CFR 63.342 (f)(3) WAS NOT FOLLOWED, PROVIDE AN EXPLANATION OF THE REASONS FOR NOT FOLLOWING THE PLAN AND DESCRIBE THE ACTIONS TAKEN FOR THAT EVENT:

DESCRIBE ANY CHANGES IN TANKS, RECTIFIERS, CONTROL DEVICES, MONITORING, ETC. SINCE THE LAST STATUS REPORT:

ADDITIONAL COMMENTS:

ALL SOURCES: CHECK ONE

- 9 I CERTIFY THAT THE WORK PRACTICE STANDARDS IN 40 CFR 63.342(f) WERE FOLLOWED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN ON FILE; AND, THAT THE INFORMATION CONTAINED IN THIS REPORT IS ACCURATE AND TRUE TO THE BEST OF MY KNOWLEDGE.
- 9 THE WORK PRACTICE STANDARDS IN 40 CFR 63.342(f) WERE NOT FOLLOWED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN ON FILE, AS EXPLAINED ABOVE AND/OR ON ATTACHED.

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for New Construction and Operation

Source Name: Parker Hannifin Corporation
Source Location: One Parker Drive, Ashley, Indiana 46705
County: DeKalb
Construction Permit No.: MSOP 033-11701-00073
SIC Code: 3471
Permit Reviewer: CarrieAnn Ortolani

On August 3, 2000, the Office of Air Management (OAM) had a notice published in the Auburn Evening Star, Auburn, Indiana, stating that Parker Hannifin Corporation had applied for a permit to operate a chromium electroplating source with packed bed scrubber/ composite mesh pad systems, composite mesh pad scrubbers, filter bags and dust collectors as controls. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On August 11, 2000, Tony Proper of Parker Hannifin Corporation submitted comments on the proposed construction permit. The summary of the comments and corresponding responses are as follows (The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded.**):

Comment 1:

Please be advised that Parker Hannifin, Ashley facility, has upgraded its dust collection system. The old Torit cyclone system has been removed and replaced with two (2) Grivna wet dust collectors. The particulates are removed from the airflow in the water collection tank and the clean air is exhausted to the plant atmosphere.

Response 1:

This change in control equipment will not change the potential to emit of the source or the applicability of any rules. Section A.2 and the facility description in Section D.2 are revised as follows:

- (c) Two (2) grinding and polishing lines, including the following:
- (1) Two (2) centerless grinders, equipped with mist eliminators and a fiberglass filter bag, capacity: 6,700 pounds per day;
 - (2) Two (2) polishing machines, equipped with **two (2) wet dust collectors** ~~two (2) dust collectors, each,~~ capacity: 6,700 pounds per day; and
 - (3) One (1) buffing machine, with three (3) polishing heads, equipped with a wet dust collecting system, capacity: 4,000 pounds per day.

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name:	Parker Hannifin Corporation, Cylinder Division
Source Location:	One Parker Drive, Ashley, Indiana 46705
County:	DeKalb
SIC Code:	3471
Operation Permit No.:	MSOP 033-11701-00073
Permit Reviewer:	CarrieAnn Ortolani

The Office of Air Management (OAM) has reviewed an application from Parker Hannifin Corporation, Cylinder Division relating to the construction and operation of a large hard chromium electroplating source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units, or emission units that did not require a permit at the time they were constructed, and pollution control devices:

- (a) One (1) hard chromium electroplating operation with a maximum cumulative rectifier capacity of 317,520,000 Ampere-hours per year consisting of:
 - (1) One (1) hard chromium electroplating tank, identified as VP-1, constructed prior to January 25, 1995 and equipped with a packed bed scrubber/ composite mesh pad system, and exhausting to one (1) stack, identified as VPS.
 - (2) Three (3) hard chromium electroplating tanks, identified as HP-1, HP-2 and HP-3, constructed prior to January 25, 1995 and equipped with a packed bed scrubber/ composite mesh pad system, and exhausting to one (1) stack, identified as OHPS-1.
 - (3) Three (3) hard chromium electroplating tanks, identified as HP-4, HP-5 and HP-6, constructed in April 1997 and equipped with a composite mesh pad scrubber, and exhausting to one (1) stack, identified as NHPS-1.
- (b) One (1) natural gas fired applied air system, installed in May 1983, capacity: 5.0 million British thermal units per hour.
- (c) Two (2) grinding and polishing lines, including the following:

- (1) Two (2) centerless grinders, equipped with mist eliminators and a fiberglass filter bag, capacity: 419 pounds per hour;
- (2) Two (2) polishing machines, equipped with two (2) dust collectors, each, capacity: 419 pounds per hour; and
- (3) One (1) buffing machine, with three (3) polishing heads, equipped with a wet dust collecting system, capacity: 250 pounds per hour.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

There are no new proposed facilities at this source during this review process.

Existing Approvals

There are no existing approvals for this source.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
VPS	One (1) Plating Tank (VP-1)	34.5	2.5	7,344	72
OHPS-1	Three (3) Plating Tanks (HP-1, HP-2 and HP-3)	33.5	2.5	19,286	68
NHPS-1	Three (3) Plating Tanks (HP-4, HP-5 and HP-6)	33.5	2.5	17,000	70

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 27, 1999, with additional information received on February 22 and July 17, 2000.

Emission Calculations

Chromium emissions (Single HAP) from the biggest chromium electroplating source in Indiana are less than ten (10) tons per year and Parker Hannifin Corporation, Cylinder Division is a much smaller source in comparison. Therefore, no emission calculations were necessary for the chromium electroplating because the chromium emissions from this source will be less than ten (10) tons per year. See Appendix A (pages 1 through 3) of this document for detailed emissions calculations for combustion and grinding, buffing and polishing operations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.554
PM ₁₀	0.678
SO ₂	0.013
VOC	0.120
CO	1.84
NO _x	2.19

HAPs	Potential To Emit (tons/year)
Benzene	4.60E-5
Dichlorobenzene	2.63E-5
Formaldehyde	1.64E-3
Hexane	3.94E-2
Toluene	7.45E-5
Lead	1.10E-5
Cadmium	2.41E-5
Chromium	Less than 10
Manganese	8.32E-6
Nickel	4.60E-5
TOTAL	Less than 10

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of each pollutant is less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPS is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (c) The existing source is subject to 326 IAC 20-8 but not subject to 326 IAC 2-5.5-1(b)(2), Registration, because the source is not a decorative coating plant. The source is a hard chromium electroplating source and the source emits less than major source levels (see (a) and (b) above). Therefore, the source is subject to the provisions of 326 IAC 2-6.1-3(a).

Actual Emissions

No previous emission data has been received from the source.

Potential to Emit of Individual Facilities

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process/facility	Potential to Emit (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPS
One (1) hard chromium electroplating operation	0.00	0.00	0.00	0.00	0.00	0.00	< 10
One (1) natural gas-fired applied air system	0.042	0.166	0.013	0.120	1.84	2.19	0.041
Two (2) buffing and polishing lines	0.512	0.512	0.00	0.00	0.00	0.00	0.00
Total Emissions	0.564	0.678	0.013	0.120	1.84	2.19	< 10

County Attainment Status

The source is located in DeKalb County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. DeKalb County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) DeKalb County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.554
PM ₁₀	0.678
SO ₂	0.013
VOC	0.120
CO	1.84
NO _x	2.19

These emissions are the total potential to emit of the entire source. This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPS is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) Tanks VP-1, HP-1, HP-2, HP-3, HP-4, HP-5 and HP-6 are subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 14, (40 CFR 63, Subpart N, and 326 IAC 20-1-1). Pursuant to 40 CFR 63, Subpart N, and 326 IAC 20-1-1, the chromium electroplating operations are subject to the following conditions:
 - (1) Emission limitation:
The Permittee shall comply with the requirements of this condition on and after the compliance date for the tanks.
 - (2) The hard chromium electroplating tanks, identified as VP-1, HP-1, HP-2 and HP-3 above, are considered a large, existing hard chromium electroplating operation. During tank operation, the Permittee shall control chromium emissions discharged to the atmosphere from the tanks by not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed fifteen-thousandth milligrams of total chromium per dry standard cubic meter of ventilation air (0.015 mg/dscm) [equivalent to six and six-tenths times ten raised to the power of negative six grains of total chromium per dry standard cubic foot of ventilation air (6.6×10^{-6} gr/dscf)].

- (3) The hard chromium electroplating tanks, identified as HP-4, HP-5 and HP-6 above, are considered a large, new hard chromium electroplating operation. During tank operation, the Permittee shall control chromium emissions discharged to the atmosphere from the tanks by not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed fifteen-thousandth milligrams of total chromium per dry standard cubic meter of ventilation air (0.015 mg/dscm) [equivalent to six and six-tenths times ten raised to the power of negative six grains of total chromium per dry standard cubic foot of ventilation air (6.6×10^{-6} gr/dscf)].
- (4) Monitoring Requirements:
- (A) Pursuant to 40 CFR 63.343(c)(1)(ii), when using a composite mesh-pad system to comply with the limits specified above and pursuant to 40 CFR 63.343(c)(3) and 63.343(c)(1)(ii), when using a packed bed scrubber in conjunction with a composite mesh-pad system to comply with the limits specified above, the Permittee shall monitor and record the pressure drop across the composite mesh-pad system during tank operation once each day that the hard chromium electroplating tank is operating. To be in compliance with the standards, the composite mesh-pad system shall be operated within ± 1 inch of water column of the pressure drop value established during the initial performance test, or within the range of compliant values for pressure drop established during multiple performance tests.
- (B) Tank operation or operating time is defined as that time when a part is in the tank and the rectifier is turned on. If the amount of time that no part is in the tank is fifteen minutes or longer, that time is not considered operating time. Likewise, if the amount of time between placing parts in the tank (i.e., when no part is in the tank) is less than fifteen minutes, that time between plating the two parts is considered operating time.
- (5) Reporting Requirements:
A summary report shall be prepared to document the ongoing compliance status of the chromium electroplating operation. This report shall be completed annually, retained on site, and made available to IDEM upon request. If there are significant exceedance of chromium air emission limits (as defined in 40 CFR Part 63.347(h)(2)), then semiannual reports shall be submitted to:
- Indiana Department of Environmental Management
Air Compliance Branch, Office of Air Management
Chromium Electroplating
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206
- (6) The chromium electroplating operations shall be subject to the record keeping and reporting requirement as indicated in the chromium electroplating NESHAP.

State Rule Applicability - Entire Source

326 IAC 2-4.1-1 (New Source Toxics Control)

The potential to emit each individual hazardous air pollutant (HAP) is less than 10 tons per year and the potential to emit any combination of HAPs is less than 25 tons per year. Therefore, this source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments, and the requirements of 326 IAC 2-4.1-1, New Source Toxics Control, are not applicable.

326 IAC 2-6 (Emission Reporting)

This source is located in DeKalb County and the potentials to emit VOC, PM₁₀ and NO_x are less than one-hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the two (2) centerless grinders shall not exceed 1.44 pounds per hour, total, when operating at a combined process weight rate of 419 pounds per hour.

The PM emissions from the two (2) centerless grinders before controls are 0.005 pounds per hour which is less than the allowable PM emission rate of 1.44 pounds per hour. Therefore, the two (2) centerless grinders are in compliance with this rule.

- (b) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the two (2) polishing machines shall not exceed 1.44 pounds per hour, total, when operating at a combined process weight rate of 419 pounds per hour.

The PM emissions from the two (2) polishing machines before controls are 0.079 pounds per hour which is less than the allowable PM emission rate of 1.44 pounds per hour. Therefore, the two (2) polishing machines are in compliance with this rule.

- (c) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the one (1) buffing machine shall not exceed 1.02 pounds per hour when operating at a process weight rate of 250 pounds per hour.

The PM emissions from the one (1) buffing machine before controls are 0.032 pounds per hour which is less than the allowable PM emission rate of 1.02 pounds per hour. Therefore, the one (1) buffing machine is in compliance with this rule.

These limitations are based on the following equation:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Conclusion

The operation of this chromium electroplating source shall be subject to the conditions of the attached proposed Minor Source Operating Permit 033-11701-00073.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Page 1 of 3 TSD App A

Company Name: Parker Hannifin Corporation, Cylinder Division
Address City IN Zip: One Parker Drive, Ashley, IN 46705
MSOP: 033-11701
Plt ID: 033-00073
Reviewer: CarrieAnn Ortolani
Date: December 27, 1999

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

5.00

43.80

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.042	0.166	0.013	**see below	0.120	1.84

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations

Page 2 of 3 TSD App A

Natural Gas Combustion Only**MM BTU/HR <100****HAPs Emissions**

Company Name: Parker Hannifin Corporation, Cylinder Division
Address City IN Zip: One Parker Drive, Ashley, IN 46705
MSOP: 033-11701
Pit ID: 033-00073
Reviewer: CarrieAnn Ortolani
Date: December 27, 1999

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.60E-05	2.63E-05	1.64E-03	3.94E-02	7.45E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.10E-05	2.41E-05	3.07E-05	8.32E-06	4.60E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Grinding, Polishing and Buffing Operations**

Company Name: Parker Hannifin Corporation, Cylinder Division
Address City IN Zip: One Parker Drive, Ashley, IN 46705
MSOP: 033-11701
Plt ID: 033-00073
Reviewer: CarrieAnn Ortolani
Date: December 27, 1999

Process	Particulate Collected (lbs)	Operating Time Resulting in Amount Collected (hours)	Rate Particulate Collected (lbs/hr)	Control Efficiency	Potential PM Emissions before Controls (lbs/hr)	Potential PM Emissions before Controls (tons/yr)	Potential PM Emissions after Controls (lbs/hr)	Potential PM Emissions after Controls (tons/yr)
Centerless Grinding	5.00	960	0.005	95.0%	0.005	0.024	0.0003	0.001
Polishing/Buffing	1.25	16	0.078	98.4%	0.079	0.348	0.0013	0.006
Stand alone Buffing	0.50	16	0.031	98.0%	0.032	0.140	0.0006	0.003

Methodology

Rate Particulate Collected (lbs/hr) = Particulate Collected (lbs) / Operating Time Resulting in Amount Collected (hrs)

Potential PM Emissions before Controls (lbs/hr) = Rate Particulate Collected (lbs/hr) / Control Efficiency

Potential PM Emissions before Controls (tons/yr) = Potential PM Emissions before Controls (lbs/hr) * 8760 hours/year / 2000 lbs/ton

Potential PM Emissions after Controls (lbs/hr) = Potential PM Emissions before Controls (lbs/hr) * (1 - Control Efficiency)

Potential PM Emissions after Controls (tons/yr) = Potential PM Emissions after Controls (lbs/hr) * 8760 hours/year / 2000 lbs/ton

PM-10 is assumed equal to PM for these emission units

Allowable Rate of Emissions

Process Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)
419	0.21	1.44
419	0.21	1.44
250	0.13	1.02

Methodology

Allowable Emissions = 4.10(Process Weight Rate)^{0.67}